

Moroccan High-School Learners' Listening Comprehension Problems: Insights from Learner Self-Reports

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Received: 25 Sep 2025, Received in revised form: 27 Oct 2025, Accepted: 02 Nov 2025, Available online: 06 Nov 2025

Abstract— This study explores the cognitive nature of listening comprehension problems among Moroccan high-school learners of English as a foreign language (EFL). Drawing upon Anderson's (1995) three-phase model of comprehension—perception, parsing, and utilisation—and following the introspective procedures established by Goh (2000), the research investigates the real-time processing difficulties experienced by learners when engaging with spoken English. Data were collected from eighty second-year Baccalaureate students in three public high schools in Kénitra through listening diaries, small-group interviews, and immediate retrospective verbalisations conducted after classroom listening tasks. The findings reveal ten recurring problems distributed across the three phases of processing. At the perceptual level, learners frequently failed to recognise familiar words in speech, missed the beginnings of utterances, and reported lapses of attention due to fast delivery and accent variation. At the parsing level, difficulties emerged in holding sequences of information, forming coherent mental representations, and integrating new input with previously heard material. At the utilisation level, students struggled to infer the speaker's intended meaning, apply background knowledge appropriately, and maintain comprehension when confronted with unfamiliar cultural content. These results point to significant constraints in learners' cognitive processing capacity, particularly short-term memory and automatic lexical access. The study concludes that effective listening instruction in Moroccan EFL classrooms must move beyond comprehension testing toward metacognitive training that enhances attention control, word-recognition fluency, and inferential reasoning. Pedagogical recommendations include systematic awareness-raising of listening processes, explicit strategy instruction, and increased exposure to authentic speech under supportive conditions.

Keywords— listening comprehension, EFL, Moroccan high school, cognitive processing, perception, parsing, utilisation, metacognitive awareness

I. INTRODUCTION

In second and foreign language learning, listening comprehension has long been recognised as both foundational and elusive. Despite its acknowledged role in shaping communicative competence, listening remains one of the least systematically taught and assessed language skills, particularly in EFL contexts. Within Moroccan high schools, this paradox is especially

evident: students are expected to comprehend authentic English speech in examinations and classroom interactions, yet most struggle to decode meaning in real-time listening events. Decades of pedagogical traditions in Morocco have tended to prioritise grammar and reading over the auditory dimension of language, resulting in a persistent imbalance between receptive and productive skills. This context provides a

compelling rationale for re-examining listening comprehension from a cognitive perspective, grounded in the mental processes that underlie learners' success or failure in understanding spoken English.

The increasing scholarly attention to listening as an active and strategic process (Field, 2009; Vandergrift & Goh, 2012) has underscored the need to identify not only *what* problems learners face but also *how* these problems emerge in real time. Goh's (2000) seminal work, which analysed second-language learners' introspective accounts of comprehension problems through the lens of Anderson's (1995) cognitive model, demonstrated that many difficulties originate in the mental architecture of perception, parsing, and utilisation rather than merely in linguistic deficiency. Anderson's model conceptualises listening as a sequence of interrelated and recursive cognitive operations: perceptual encoding of acoustic input, syntactic and semantic parsing of utterances, and the integration of meaning with existing knowledge in long-term memory. These processes are not discrete but overlapping, with comprehension failures potentially occurring at any stage (Anderson, 1995; Goh, 2000).

Applying this model to the Moroccan EFL context allows for a fine-grained understanding of the specific cognitive constraints experienced by learners who are frequently exposed to limited input and whose classroom environments rarely promote metacognitive reflection on listening. Traditional comprehension exercises—typically involving “listen and answer” formats—test the end product of understanding but seldom illuminate the intricate mechanisms that fail along the way (Field, 2008). The present study therefore seeks to move beyond product-oriented measures by eliciting learners' own perceptions of their real-time listening difficulties. Through diary entries, focus-group discussions, and immediate retrospective verbalisations, this investigation provides a window into learners' moment-by-moment cognitive struggles as they attempt to process spoken English.

The Moroccan context is particularly suited for this inquiry. Public high-school students are typically exposed to English for three to four hours weekly, with limited opportunities for extended listening to authentic speech. Listening materials are often scripted, slow-paced, and embedded in textbook exercises that privilege written comprehension over auditory response. In such conditions, comprehension failures are not merely linguistic but also cognitive: learners are

overwhelmed by rapid delivery, unable to retain sequences in working memory, and seldom trained to use contextual cues or inference strategies effectively.

Accordingly, the aims of this study are threefold:

1. To identify the specific real-time listening comprehension problems experienced by Moroccan high-school learners of English;
2. To interpret these problems within the cognitive framework of Anderson's (1995) perception–parsing–utilisation model; and
3. To generate pedagogical implications for listening instruction that fosters metacognitive awareness and cognitive efficiency.

This article contributes to the growing body of research advocating a process-oriented approach to listening pedagogy. By integrating Goh's (2000) introspective methodology with the realities of Moroccan EFL classrooms, it extends the applicability of cognitive frameworks to a non-Asian, under-researched educational context. Ultimately, the study argues that improving learners' listening competence requires more than exposure or testing—it necessitates systematic awareness of *how comprehension fails* and how instruction can directly target these breakdown points through explicit strategy training.

II. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1 The Cognitive Perspective on Listening

The cognitive view of listening comprehension regards understanding as the result of complex, recursive mental processes rather than passive reception of sound. In contrast to earlier structuralist approaches that emphasised linguistic decoding, cognitive models consider listening an active process of constructing meaning through attention, perception, memory, and inferencing (Anderson, 1995; Field, 2009; Vandergrift & Goh, 2012). Within this perspective, comprehension failures are understood not merely as linguistic gaps but as points of cognitive breakdown—moments where limited working memory, attention lapses, or inefficient parsing impede meaning construction.

Anderson's (1995) three-phase model of comprehension—perception, parsing, and utilisation—provides a theoretical scaffold for understanding these processes. During perception, listeners decode the continuous acoustic stream, identify phonemes, and

segment speech into recognizable lexical units. The parsing phase involves syntactic and semantic integration: the listener constructs mental representations of utterances, linking words into coherent structures. In utilisation, listeners interpret meaning in context, connect it with prior knowledge, draw inferences, and evaluate the communicative intent of the speaker. These processes are recursive and often overlap; failure in one phase typically cascades into the others (Anderson, 1995; Goh, 2000).

Applied to second or foreign language listening, this model elucidates why comprehension often falters: learners may not recognise words they know due to slow phonological processing; they may forget earlier segments while attending to new input; or they may decode literal meanings without grasping pragmatic intent (Goh, 2000; Field, 2008). Such difficulties reflect cognitive overload, limited automaticity, and insufficient metacognitive control.

2.2 Goh's (2000) Model of Real-Time Listening Problems

Building on Anderson's framework, Goh (2000) identified ten recurring problems among tertiary-level Chinese learners of English through introspective data from diaries, small-group interviews, and retrospective verbalisations. These problems were classified according to the three comprehension phases.

- **Perceptual problems** included failure to recognise known words, inability to segment speech, missing the beginnings of texts, lapses of concentration, and neglecting subsequent input while reflecting on meaning.
- **Parsing problems** involved quickly forgetting what was heard, being unable to form coherent mental representations, or losing track of subsequent information due to earlier confusion.
- **Utilisation problems** encompassed failure to grasp the intended message and difficulty relating new input to prior knowledge.

This classification remains one of the most comprehensive cognitive taxonomies of listening difficulties to date. Its strength lies in the use of *learner introspection*, which reveals real-time cognitive constraints invisible to traditional observation. Rather than describing external causes such as text difficulty or accent variation, Goh's approach exposes the inner mental operations that cause comprehension

breakdowns—overloaded working memory, slow lexical access, and inefficient inferencing.

2.3 Listening Problems in EFL Contexts

Subsequent studies in diverse EFL environments have corroborated Goh's (2000) findings, confirming that processing failures at various cognitive stages are universal among language learners. Vandergrift (2007) and Graham and Santos (2015) observed that less proficient listeners tend to rely excessively on bottom-up decoding, allocating too much attention to word recognition at the expense of global understanding. Similarly, Siegel (2015) noted that ineffective listeners exhibit weak monitoring of comprehension and limited metacognitive awareness, resulting in poor strategy use.

In the Arab and North African EFL contexts, research consistently reports difficulties related to speech rate, accent variation, vocabulary limitation, and concentration lapses (Aljhawe, 2025; Hasan, 2000; Sekkal, 2020). Moroccan studies have echoed these challenges. However, most have relied on quantitative survey data to describe learners' perceived difficulties rather than to explore their cognitive underpinnings. For example, Ouhejjou (2019) investigated listening comprehension problems among high-school students in the Kénitra delegation using a large-scale questionnaire and found that rapid speech rate, accent variation, and limited vocabulary were the most frequently reported obstacles. The present qualitative study extends this line of inquiry by probing *how* such difficulties emerge in real time through learners' introspective accounts

2.4 Cognitive Load and Working Memory Constraints

From a psycholinguistic perspective, listening comprehension depends heavily on the capacity of *working memory*, the system responsible for temporarily holding and manipulating information during mental tasks (Baddeley, 2003). When listeners attempt to process incoming speech faster than their memory can accommodate, they experience what Field (2008) calls "cognitive overload." This manifests as rapid forgetting, confusion of sentence boundaries, or inability to integrate successive ideas. Such constraints are exacerbated for EFL learners who must simultaneously decode unfamiliar phonological sequences and construct meaning—a dual cognitive burden that strains limited attentional resources (Vandergrift, 2007).

In the Moroccan context, where exposure to natural English input is minimal, working memory limitations are likely magnified by low automatization of word recognition. Students invest substantial cognitive effort in decoding form, leaving little capacity for higher-level integration and inference. Consequently, comprehension becomes fragile: when attention momentarily shifts or an unknown word appears, understanding collapses and cannot be reconstructed retroactively.

2.5 The Role of Metacognitive Awareness

A growing body of research has emphasized *metacognitive awareness* as a mediating factor in successful listening (Vandergrift & Goh, 2012; Graham & Macaro, 2008). Skilled listeners are able to plan, monitor, and evaluate their comprehension in real time, adjusting strategies when meaning breaks down. In contrast, untrained listeners tend to process passively, often unaware of where and why comprehension fails. Metacognitive instruction thus plays a crucial role in helping learners identify their cognitive constraints, allocate attention efficiently, and regulate strategy use.

By adopting Goh's introspective procedures, the present study not only identifies the cognitive loci of comprehension breakdown but also fosters learners' awareness of their own listening behaviour. This dual purpose—diagnostic and developmental—aligns with current pedagogical calls for integrating listening strategy instruction into EFL curricula, particularly in contexts where students lack opportunities for autonomous language exposure.

2.6 Research Gap and Rationale for the Present Study

While Goh's (2000) work has significantly advanced the understanding of real-time listening difficulties, it was conducted among tertiary-level learners in an Asian context. There remains a paucity of research replicating this cognitive approach in African or Arab EFL environments, especially within secondary education. Moroccan studies have typically relied on survey-based or product-oriented designs, offering descriptive inventories of listening difficulties without delving into their cognitive underpinnings.

The present study therefore adapts Goh's methodology to Moroccan high schools, maintaining the introspective focus on *how* comprehension fails in real time. It aims to map learners' self-reported difficulties onto the perception–parsing–utilisation framework, thus

bridging cognitive theory and contextual reality. By combining rigorous qualitative procedures with a context-specific focus, the study contributes to both theoretical refinement and pedagogical insight.

III. METHODOLOGY

3.1 Research Design

This study adopts a qualitative, introspective research design modelled closely on Goh's (2000) cognitive investigation of second-language listening difficulties. Its central aim is to identify and classify Moroccan high-school students' real-time listening comprehension problems according to Anderson's (1995) three-phase cognitive model: perception, parsing, and utilisation. Qualitative inquiry is particularly suited for such an investigation because it allows access to the *subjective experiences* of learners as they process spoken input—phenomena that are otherwise unobservable through traditional comprehension tests (Nunan, 2010). The design prioritises the learner's "inner voice" and draws upon the principles of introspective reporting to uncover moment-by-moment mental operations and perceived breakdowns during listening tasks.

The study follows three complementary procedures for data elicitation: listening diaries, small-group interviews, and immediate retrospective verbalisations. These instruments were selected because they enable learners to articulate cognitive processes in different temporal frames: (a) the diary captures reflective awareness over time; (b) the group interview elicits shared and negotiated interpretations; and (c) the retrospective verbalisation probes immediate memory of thought sequences during listening. Together, these data sources yield a rich corpus of metacognitive evidence about how comprehension difficulties arise and how students conceptualise them.

3.2 Participants

The participants were eighty second-year Baccalaureate students (aged 17–19) enrolled in three public high schools in the Kénitra Delegation, Morocco. All participants were studying English as a foreign language as part of the national curriculum. Their general proficiency level, based on classroom evaluation and teacher estimation, ranged between B1 and B2 on the Common European Framework of Reference (CEFR). None had lived in an English-speaking environment, and their exposure to authentic oral English outside the classroom was minimal.

The sample was selected through purposive convenience sampling, reflecting the realities of intact classroom settings in Moroccan high schools. Participation was voluntary, and students provided written consent following an explanation of the study's aims and procedures. Anonymity and confidentiality were ensured through pseudonyms used in all transcripts and reports.

3.3 Data Collection Instruments

a. Listening Diaries

Each participant kept a listening diary for four consecutive weeks during regular English classes. After every listening session—typically based on textbook or recorded materials—students were asked to write short reflections in English or Arabic describing:

1. what they listened to;
2. what they understood;
3. where they encountered difficulties; and
4. what they believed caused those difficulties.

They were encouraged to provide concrete examples (e.g., “I forgot what the teacher said before the new sentence began” or “I knew the word but couldn’t recognise it when spoken”). The diaries were collected weekly and served as the main corpus for identifying recurring problem types.

b. Small-Group Interviews

Following the diary phase, six semi-structured group interviews were conducted, each involving five to six students from different schools. The interviews aimed to clarify and elaborate on diary entries, allowing participants to discuss shared listening experiences. Interview prompts included questions such as:

- “When you listen to English, what parts are hardest to follow?”
- “What happens in your mind when you lose track of meaning?”
- “Do you think of the same problems during class and during listening at home?”

These interviews were conducted in English, though students were permitted to switch to Arabic or French for precision. All sessions were recorded, transcribed, and translated where necessary.

c. Immediate Retrospective Verbalisations

In the final phase, fifteen students participated in *immediate retrospective verbalisation sessions* (Ericsson

& Simon, 1993; Goh, 2000). After listening to short audio excerpts (one to two minutes) from authentic materials, each student was asked to recall and describe what went through their mind during the task. The focus was on *process recollection*, not accuracy of comprehension. Typical prompts included: “What were you thinking at that moment?” and “What made you stop understanding?” These sessions were audio-recorded and transcribed verbatim.

This procedure provided insight into online cognitive operations, revealing the sequencing of attention, recall, and inferencing in real time. It complemented the more general reflections captured in the diaries and interviews.

3.4 Data Analysis Procedures

The analytical process followed Goh’s (2000) systematic coding method, adapted to the Moroccan context. The analysis unfolded in several stages:

1. **Initial Reading and Coding:** All transcriptions and diary entries were read repeatedly. Every segment describing a comprehension difficulty was highlighted and summarised in a short analytic note (e.g., “cannot follow speech after new word,” “forgets first part of message”).
2. **Problem Listing and Tallying:** Each distinct difficulty was recorded and tallied according to frequency of mention. Repeated references by the same participant were noted but not counted as new instances.
3. **Categorisation by Cognitive Phase:** Following Anderson’s (1995) framework, each problem was assigned to one of the three processing phases: perception, parsing, or utilisation. Ambiguous cases were discussed among two independent coders (the researcher and a colleague in applied linguistics) until consensus was reached.
4. **Validation and Triangulation:** The categories were cross-validated across the three data sources. A problem was confirmed only if it appeared in at least two of the three instruments. This triangulation enhanced the reliability of the classification and mitigated subjective bias.

Through this analytic procedure, ten major types of listening problems were identified. Five were linked to perceptual processing, three to parsing, and two to utilisation—mirroring the tripartite structure of

Anderson's (1995) cognitive model but contextualised for Moroccan EFL learners.

3.5 Researcher Role and Trustworthiness

The researcher served as both classroom instructor and investigator, a dual role necessitating careful management of bias. To maintain objectivity, data interpretation was supported by an independent coding check from another qualified English teacher and by the maintenance of an analytic memo log documenting coding decisions. Member checking was also employed: brief summaries of emerging categories were shared with a subset of participants to confirm the accuracy of interpretation.

Credibility was ensured through methodological triangulation (diary, interview, verbalisation), prolonged engagement with the participants, and peer debriefing. The study did not aim for statistical generalisation but for analytical transferability—the potential applicability of findings to similar EFL contexts characterised by low exposure to authentic spoken English.

IV. FINDINGS AND DISCUSSION

The analysis of learner diaries, small-group interviews, and retrospective verbalisations revealed a total of ten recurrent listening comprehension problems among Moroccan high-school students. Consistent with Anderson's (1995) tripartite model, these difficulties clustered around the three interrelated phases of cognitive processing: perception, parsing, and utilisation. The classification not only mirrors Goh's (2000) taxonomy but also reflects specific contextual and pedagogical realities of Moroccan EFL classrooms.

4.1 Problems Related to Perceptual Processing

Perceptual processing concerns the *initial decoding of the speech signal*—identifying sounds, segmenting the continuous stream into words, and retaining input long enough for further processing. Five major problems were associated with this phase.

4.1.1 Failure to Recognise Familiar Words

Many students reported that they could not recognise words they already knew when they occurred in continuous speech. A learner wrote:

"Sometimes the teacher says words I know in writing, but my ears can't catch them in speech. I only realise later that I knew them." (Diary, Sanaa)

This difficulty stems from underdeveloped sound-meaning associations and insufficient automaticity in phonological decoding. Learners' lexical knowledge is largely orthographic; their word recognition depends on visual rather than auditory cues. As in Goh's (2000) findings, slow retrieval of phonological forms prevents the linking of acoustic input to stored lexical items. This reflects inadequate exposure to natural pronunciation and connected speech in Moroccan classrooms, where scripted recordings predominate.

4.1.2 Inability to Segment the Speech Stream

Another recurrent issue was the inability to "chunk" speech into recognisable units. One student stated:

"When English speakers talk fast, it sounds like one very long word. I don't know where one word ends and another begins." (Interview, Hamza)

Learners' difficulties in segmentation indicate weak bottom-up processing. They often perceive English as a blur of unfamiliar sounds because of reduced forms, elision, and assimilation—features rarely emphasised in classroom instruction. The absence of explicit training in suprasegmental features (stress, rhythm, and intonation) further contributes to perceptual failure.

4.1.3 Missing the Beginning of Texts

Several students mentioned that they "lose the start" of recordings or conversations, which compromises overall comprehension:

"Before I focus my attention, the first sentences are gone, and I can't connect the rest." (Diary, Rachid)

This indicates delayed attentional engagement, often caused by anxiety or distraction when a listening task begins. According to Anderson's (1995) model, failure to capture initial input leads to incomplete representations during parsing and utilisation. In the Moroccan context, classroom noise, poor equipment, and teacher-centred setups exacerbate this problem.

4.1.4 Attention Lapses and Fatigue

Learners frequently reported losing concentration mid-task:

"At first, I follow the ideas, but then my mind goes somewhere else. When I return, I've lost the thread." (Verbalisation, Hajar)

Such lapses reflect cognitive overload and limited attentional stamina. The simultaneous demands of decoding, meaning construction, and note-taking strain working memory. As Baddeley (2003) argues, attention is a finite cognitive resource; once depleted,

comprehension deteriorates. Students' limited practice in sustained listening intensifies fatigue and reduces tolerance for lengthy texts.

4.1.5 Neglecting Subsequent Input While Reflecting on Meaning

Finally, many learners paused mentally to interpret unknown words or expressions, thereby missing what followed.

"When I try to understand a difficult word, I stop listening, and the next part passes without me." (Verbalisation, Fatima)

This recursive attention to previous segments aligns with what Goh (2000) described as *attention blockage*: learners attempt to resolve earlier comprehension issues but sacrifice subsequent processing. The behaviour illustrates a mismatch between cognitive pace and speech rate—listeners' processing lags behind the input, leading to cumulative comprehension failure.

4.2 Problems Related to Parsing

Parsing refers to the integration of recognised words into syntactic and semantic structures. Three principal problems emerged at this stage.

4.2.1 Rapid Forgetting of Recently Heard Information

Two-thirds of participants indicated that they quickly forgot phrases or sentences immediately after hearing them:

"I understand the sentence when I hear it, but after the next one starts, I can't remember the first." (Diary, Othman)

This "short-term memory decay" results from limited working memory capacity and inefficient encoding. Learners attempt to store linguistic forms while processing new ones, producing what Field (2008) calls a "processing bottleneck." Without immediate consolidation into meaningful representations, earlier segments are overwritten by incoming data. This finding strongly supports Anderson's (1995) claim that comprehension phases overlap and compete for limited cognitive resources.

4.2.2 Inability to Construct Coherent Mental Representations

Many learners described a sense of understanding individual words but not the overall message:

"I know the words separately, but I can't connect them to make meaning." (Interview, Imane)

This indicates failure in semantic integration—listeners cannot synthesize lexical items into propositions or larger conceptual units. Parsing problems of this nature reflect an overreliance on bottom-up decoding with insufficient top-down inferencing. Without recognising syntactic or discourse cues, learners fail to construct coherent meaning representations, leading to fragmented comprehension.

4.2.3 Disruption Caused by Earlier Confusion

A third parsing problem involved the cascading effect of early misunderstandings:

"If I miss something at the start, the rest becomes unclear, even if it's easy." (Diary, Mourad)

This recursive disruption shows that listeners depend heavily on prior segments to interpret later ones. Once initial parsing fails, subsequent meaning-making collapses. This finding corroborates Goh's (2000) observation that comprehension breakdown often originates early and compounds through the listening event. Moroccan students' unfamiliarity with strategies such as predicting or summarising aggravates this vulnerability.

4.3 Problems Related to Utilisation

Utilisation represents the highest level of cognitive processing, where listeners connect new information with prior knowledge, infer intentions, and interpret pragmatic or cultural meaning. Two major utilisation problems were identified.

4.3.1 Understanding Words but Not the Intended Message

More than half of the participants stated that even when they understood the words, they could not grasp the speaker's intended meaning:

"I understand the words, but not what the speaker really wants to say." (Interview, Nawal)

This difficulty arises from insufficient inferencing and pragmatic competence. Learners fail to recognise implied meanings, idiomatic usage, or discourse functions (e.g., suggestion, irony). In the Moroccan context, this problem reflects both limited exposure to authentic discourse and cultural distance from native-speaker norms. It also points to the absence of explicit instruction in discourse-pragmatic features, which are essential for moving beyond literal comprehension.

4.3.2 Inappropriate or Insufficient Use of Background Knowledge

A related issue was the inability to draw upon relevant schemata to interpret new information.

"Sometimes the topic is strange, like business or technology. I can't imagine the situation, so I don't understand." (Diary, Yassine)

Listeners' background knowledge—whether linguistic, cultural, or topical—plays a decisive role in constructing meaning (Carrell & Eisterhold, 1983). When students lack the requisite schema, they cannot make inferences or evaluate new input. Conversely, some learners misapplied prior knowledge, imposing inaccurate interpretations on the text. This misuse of schemata mirrors what Anderson (1995) and Goh (2000) classify as *utilisation failure*.

4.4 Comparative Interpretation and Cognitive Interrelations

The present findings converge with earlier quantitative evidence reported by Ouhejjou (2019), who identified speech rate, unfamiliar vocabulary, and pronunciation variation as dominant sources of listening difficulty among Moroccan high-school students. By complementing that large-scale survey with introspective data, the current study deepens understanding of the cognitive mechanisms underlying these reported problems, demonstrating that many originate from perceptual and working-memory constraints rather than linguistic deficiency.

The Moroccan data confirm the interdependence of perceptual, parsing, and utilisation phases. Failures at early stages invariably affected subsequent comprehension. For instance, slow lexical recognition (perception) consumed working-memory resources, preventing efficient parsing; poor integration (parsing) led to misinterpretation (utilisation). The recursive nature of these processes echoes Anderson's (1995) assertion that comprehension is "partially ordered in time but overlapping in operation."

Moreover, the findings reveal that lower-proficiency listeners experience greater difficulty with perceptual and parsing operations, while more proficient listeners struggle primarily with utilisation—patterns also observed in Goh's (2000) original study. This suggests a developmental progression: as basic decoding becomes automatised, higher-order inferential and pragmatic skills assume greater importance.

Contextually, Moroccan students' difficulties are intensified by pedagogical and environmental constraints: minimal exposure to authentic listening

materials, poor audio quality in classrooms, and the dominance of product-oriented instruction. These external conditions interact with internal cognitive limitations, producing cumulative comprehension failure.

4.5 Synthesis and Theoretical Implications

The findings substantiate the utility of Anderson's (1995) three-phase model for analysing second-language listening in EFL contexts. They demonstrate that comprehension breakdown is not monolithic but distributed across interlocking cognitive operations. By mapping Moroccan learners' difficulties onto this framework, the study extends Goh's (2000) cognitive taxonomy to a new sociolinguistic setting.

Pedagogically, the evidence underscores the need to shift listening instruction from testing to training, focusing explicitly on perceptual decoding, working-memory management, and inferencing skills. It also validates the use of introspective techniques—diaries and verbalisations—as powerful diagnostic tools that promote metacognitive awareness and inform classroom interventions.

V. PEDAGOGICAL IMPLICATIONS AND RECOMMENDATIONS

The findings of this study bear significant pedagogical implications for the teaching of listening comprehension in Moroccan high schools. They reveal that comprehension difficulties are not solely linguistic but deeply cognitive and metacognitive, involving constraints in attention, memory, and inferencing. Accordingly, pedagogical responses must target these underlying processes through explicit strategy instruction, awareness-raising, and teacher mediation rather than through conventional comprehension testing.

5.1 Shifting from Product- to Process-Oriented Instruction

Traditional listening lessons in Moroccan classrooms typically revolve around *testing* comprehension outcomes—students listen to a text, answer questions, and verify answers—without explicit focus on *how* understanding occurs or breaks down. This approach provides no insight into learners' cognitive operations and offers little opportunity for skills development (Field, 2008; Vandergrift & Goh, 2012).

A process-oriented pedagogy should instead emphasise the mechanisms of comprehension. Teachers can

deconstruct listening into manageable stages—pre-listening activation, selective attention, note-taking, inference, and reflection—while making these processes visible to learners. Classroom tasks should integrate reflection prompts such as “Where did you lose understanding?” or “What strategy helped you recover meaning?” Such awareness-raising transforms listening from a passive reception exercise into a deliberate act of meaning construction.

5.2 Explicit Instruction in Cognitive and Metacognitive Strategies

Given that many comprehension failures stem from inefficiencies in perception and parsing, instruction should include direct training in listening strategies. These can be grouped as follows:

- **Perceptual-level strategies:**

Training learners to recognise reduced forms, stress patterns, and intonation contours enhances segmentation ability. Shadowing activities, phoneme discrimination drills, and minimal-pair dictations can help automatise bottom-up decoding.

- **Parsing-level strategies:**

Teaching learners to hold information in working memory through note-taking, keyword recall, and chunking promotes better integration. Activities that require summarising short segments before continuing the listening task encourage continuous processing and prevent overload.

- **Utilisation-level strategies:**

Instruction should foster inference, prediction, and hypothesis-testing. Pre-listening schema activation—through brainstorming or visual support—links new input to prior knowledge, reducing the risk of comprehension collapse when unfamiliar topics arise.

In addition, metacognitive strategies such as planning (setting purpose for listening), monitoring (checking understanding during the task), and evaluation (reflecting on what caused success or failure) should be explicitly modelled and practised. Research has shown that learners who internalise such strategies demonstrate superior comprehension and self-regulation (Graham & Macaro, 2008; Vandergrift, 2007).

5.3 Teacher Mediation and the Role of Feedback

Teachers occupy a decisive role in scaffolding listening development. Rather than acting as mere assessors, they should function as metacognitive mediators who guide students through the mental steps of comprehension. This involves modelling thought processes aloud (*“I didn’t catch this part; I’ll listen for the key word next time”*) and encouraging learners to verbalise their reasoning.

Feedback should go beyond right-or-wrong answers to address process feedback—identifying where breakdowns occurred and suggesting remedial strategies. For instance, if a learner failed to understand due to premature focus on an unknown word, the teacher might highlight the need to maintain global attention and infer meaning from context. This dialogic feedback promotes reflection and long-term strategy transfer.

Moreover, teachers should cultivate a classroom climate that reduces listening anxiety and legitimises partial understanding. Since affective factors—fear of failure, embarrassment, or frustration—frequently trigger attention lapses, emotional scaffolding is as crucial as cognitive support.

5.4 Curriculum and Material Development

At the systemic level, the current Moroccan high-school curriculum requires reconceptualization of listening as a teachable and assessable skill. Syllabi should allocate explicit time for listening strategy instruction, not merely comprehension testing. Authentic listening materials—news clips, interviews, short podcasts—should supplement textbook recordings, exposing learners to natural prosody, diverse accents, and real communicative purposes.

Task design must also shift from discrete-item testing (e.g., multiple-choice comprehension) to integrated and reflective tasks, such as:

- constructing meaning maps after listening,
- sequencing events collaboratively, or
- conducting peer discussions about listening difficulties.

Such tasks assess comprehension processes, not only outcomes, and promote shared awareness of listening strategies.

5.5 Teacher Training and Professional Development

One recurrent obstacle identified in the Moroccan context is the limited pre-service and in-service training

devoted to teaching listening. Professional development programs should therefore include modules on:

- the cognitive architecture of listening (perception, parsing, utilisation),
- diagnosing learner difficulties through introspective tools (e.g., diaries, think-alouds),
- designing strategy-based lessons, and
- using technology (subtitled videos, learning platforms) for listening practice.

Training teachers to interpret listening breakdowns through a cognitive lens enables them to design targeted interventions and foster learner autonomy. Moreover, collaborative teacher networks or workshops can provide forums for sharing reflective practice and locally adapted techniques.

5.6 Institutional and Environmental Considerations

Environmental factors—poor audio equipment, overcrowded classes, and time constraints—amplify cognitive load during listening tasks. Schools should prioritise acoustic quality and access to multimedia resources. Even modest technological improvements (e.g., personal headsets, digital recordings) can drastically enhance perceptual accuracy.

Institutional support must also extend to assessment reform. Listening evaluation should incorporate formative elements (self-report checklists, reflective logs) alongside summative tests. This dual approach recognises comprehension as a developmental trajectory rather than a one-time performance.

5.7 Summary of Pedagogical Principles

The pedagogical implications of this study can be synthesised as follows:

1. Recognise listening as an active cognitive skill requiring explicit instruction.
2. Adopt a process-oriented pedagogy that targets perception, parsing, and utilisation.
3. Teach and model listening strategies systematically across proficiency levels.
4. Use introspective tools (diaries, reflections) to enhance learner awareness.
5. Provide formative, process-based feedback instead of mere product correction.
6. Invest in teacher training and resource enhancement to sustain pedagogical innovation.

By operationalising these principles, Moroccan high-school EFL classrooms can move from superficial exposure to listening toward genuine comprehension development rooted in cognitive and metacognitive growth.

VI. CONCLUSION AND DIRECTIONS FOR FUTURE RESEARCH

6.1 Summary of Key Findings

This study set out to investigate the real-time listening comprehension problems of Moroccan high-school EFL learners through the cognitive framework of Anderson's (1995) perception–parsing–utilisation model, applying introspective procedures derived from Goh (2000). By examining data from learner diaries, small-group interviews, and retrospective verbalisations, the research identified ten recurrent difficulties that reflect how comprehension breaks down during listening.

At the perceptual level, learners frequently failed to recognise known words, segment speech, and sustain attention—problems arising from weak automaticity and attentional control. At the parsing level, difficulties centred on short-term memory decay, loss of coherence, and cascading confusion from earlier misunderstanding. At the utilisation level, students struggled to infer intended meaning or activate appropriate background knowledge. Collectively, these findings reveal that comprehension failure is a product of interacting cognitive limitations, not mere linguistic inadequacy. The results align with Goh's (2000) taxonomy yet highlight distinct contextual constraints in Moroccan classrooms, such as limited exposure to authentic input and product-oriented instruction.

6.2 Theoretical and Pedagogical Contributions

Theoretically, this research extends Goh's (2000) cognitive model to a North African EFL context, confirming that Anderson's tripartite framework remains robust across cultural and linguistic settings. It illustrates the recursive nature of comprehension processes and validates the value of introspective methods in revealing learners' mental operations. Importantly, it situates listening comprehension within the broader paradigm of *cognitive and metacognitive learning*, emphasising the interplay of attention, working memory, and prior knowledge.

Pedagogically, the study provides empirical justification for transforming listening instruction in Moroccan high schools. It advocates for a shift from testing

comprehension outcomes to teaching comprehension processes through explicit strategy instruction, metacognitive scaffolding, and teacher mediation. The recommended framework positions listening as both a skill and a cognitive discipline—one that can be improved through awareness, training, and reflection. Such reconceptualisation has the potential to bridge the persistent gap between learners' receptive deficiencies and communicative goals.

6.3 Limitations

While the study contributes valuable insights into the cognitive nature of listening comprehension difficulties, several limitations should be acknowledged. First, introspective data, though rich in descriptive and explanatory detail, rely on learners' self-awareness and verbalisation ability; some mental operations may remain inaccessible or only partially articulated. Second, the participant pool, although representative of the Kénitra region, may not capture the full sociolinguistic and institutional diversity of Moroccan high schools. Third, the qualitative focus of the present study limits the scope for generalisation. Nevertheless, this investigation complements earlier quantitative research by Ouhejjou (2019), which identified similar surface-level difficulties. Future research could thus integrate both approaches by employing mixed-method designs that combine introspective data with quantitative measures such as working-memory tasks, reaction-time analysis, or eye-tracking to provide a more comprehensive model of L2 listening processes.

6.4 Directions for Future Research

Future investigations could explore several avenues:

1. Longitudinal studies to trace the development of listening strategies and cognitive efficiency across different proficiency levels.
2. Intervention studies testing the impact of explicit metacognitive strategy instruction on comprehension outcomes in Moroccan classrooms.
3. Comparative analyses between high-school and university learners to examine age-related or proficiency-related variations in cognitive processing.
4. Cross-linguistic investigations addressing how bilingual or multilingual backgrounds influence perceptual segmentation and inferencing.
5. Teacher cognition research, focusing on how Moroccan EFL teachers conceptualise and teach listening from a cognitive perspective.

By extending research in these directions, scholars can contribute to a deeper understanding of how cognitive models of listening translate into effective pedagogical practice in non-native contexts.

6.5 Concluding Remarks

Listening comprehension remains a cornerstone of communicative competence and a persistent challenge in EFL education. This study demonstrates that effective listening is less about exposure and more about *awareness*—of how the mind processes, stores, and interprets spoken language. For Moroccan learners, building that awareness requires guided reflection, strategy instruction, and sustained interaction with authentic input. For teachers and policymakers, it requires reimagining listening pedagogy not as a passive exercise but as an active cognitive endeavour that cultivates both skill and self-regulation.

Ultimately, developing proficient listeners entails empowering learners to understand not only what they hear but also *how* they hear—a transformation that begins when classrooms engage the listening mind as deeply as the listening ear.

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